FIG. 1

10

12

original waveform

Pseudo Present waveform

FIG. 2

FIG. 3

Output due to improvements through causal switching only

FIG. 5

22

original waveform

FIG. 5

Pseudo Present waveform ↙30

FIG. 6
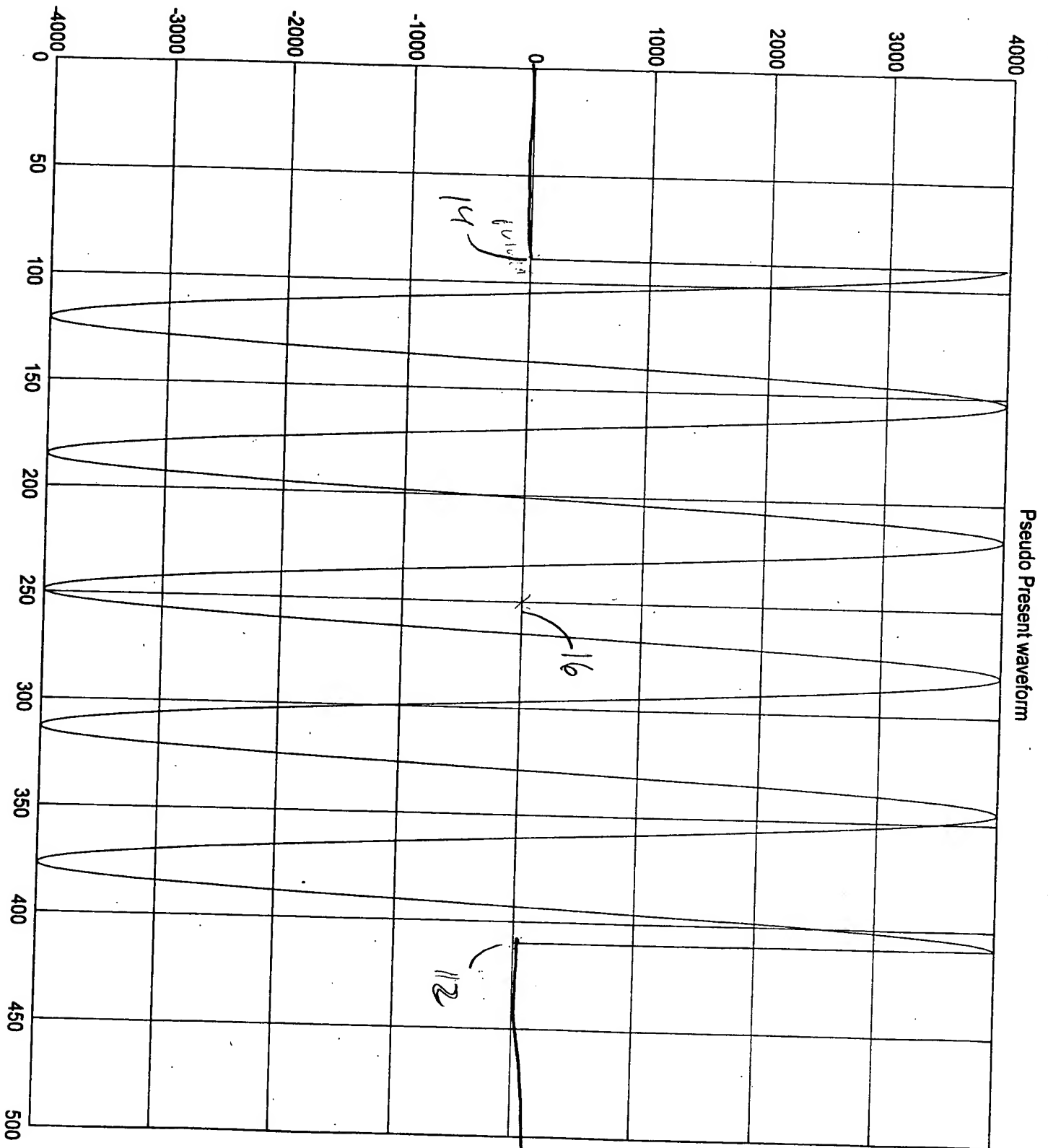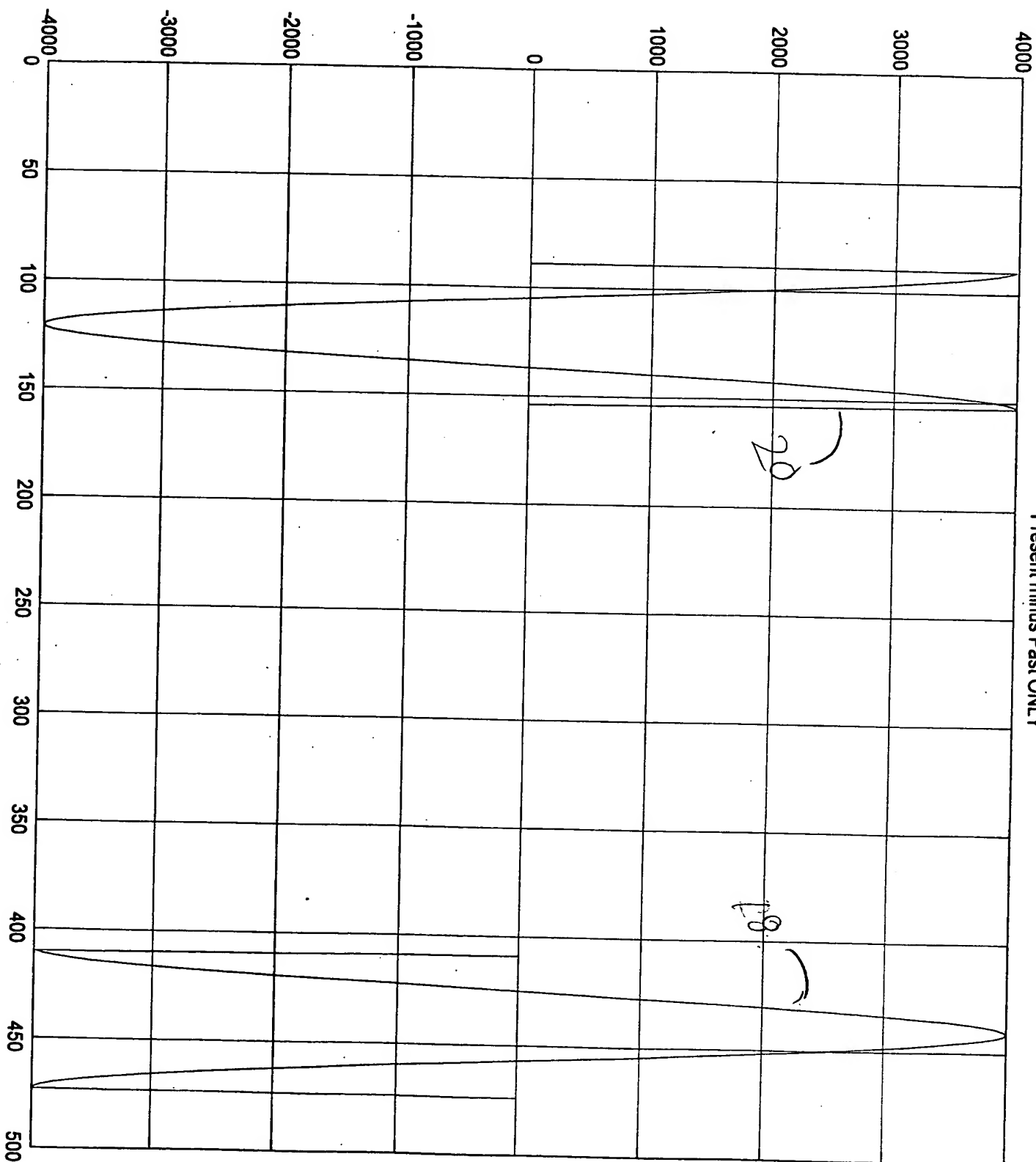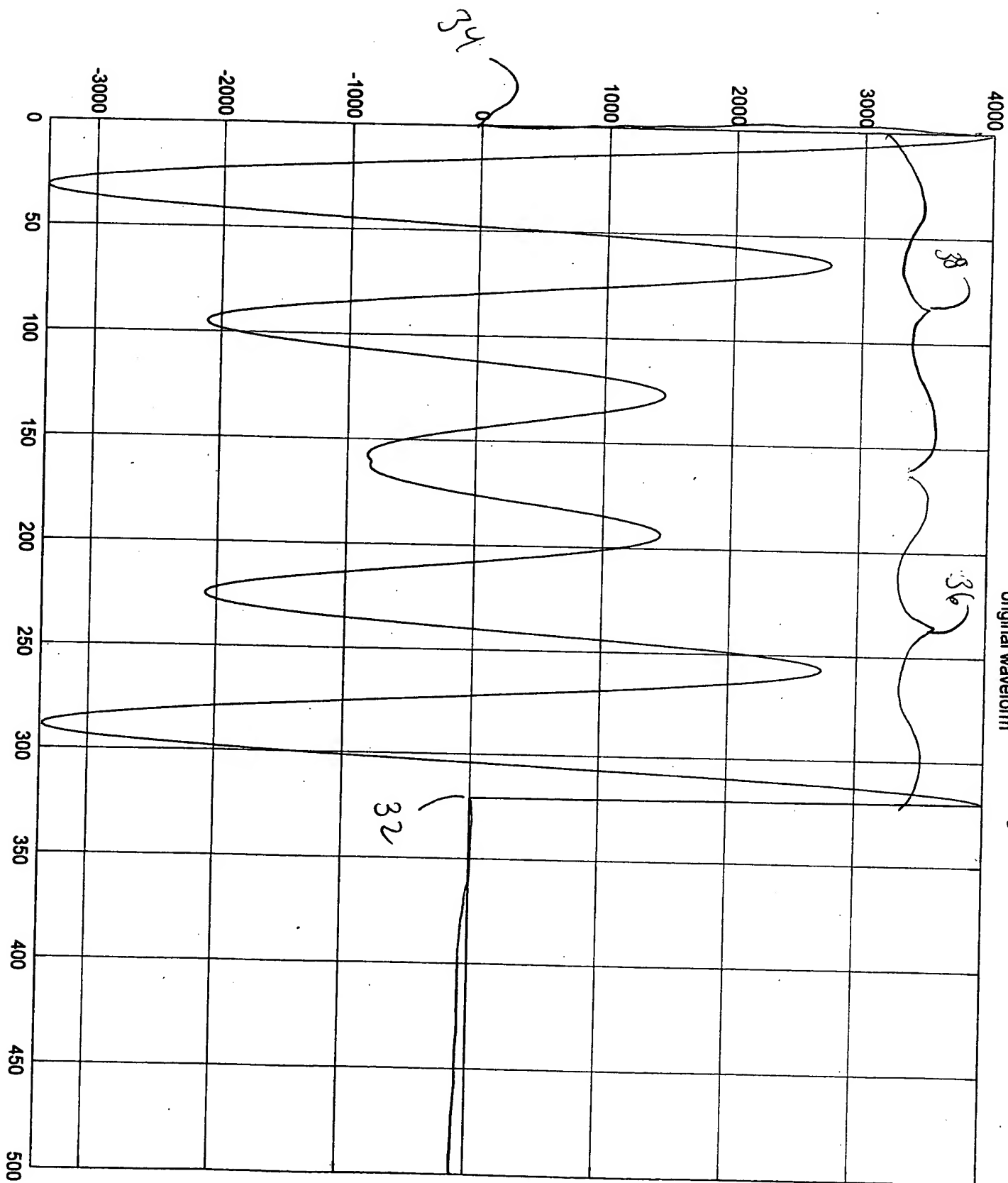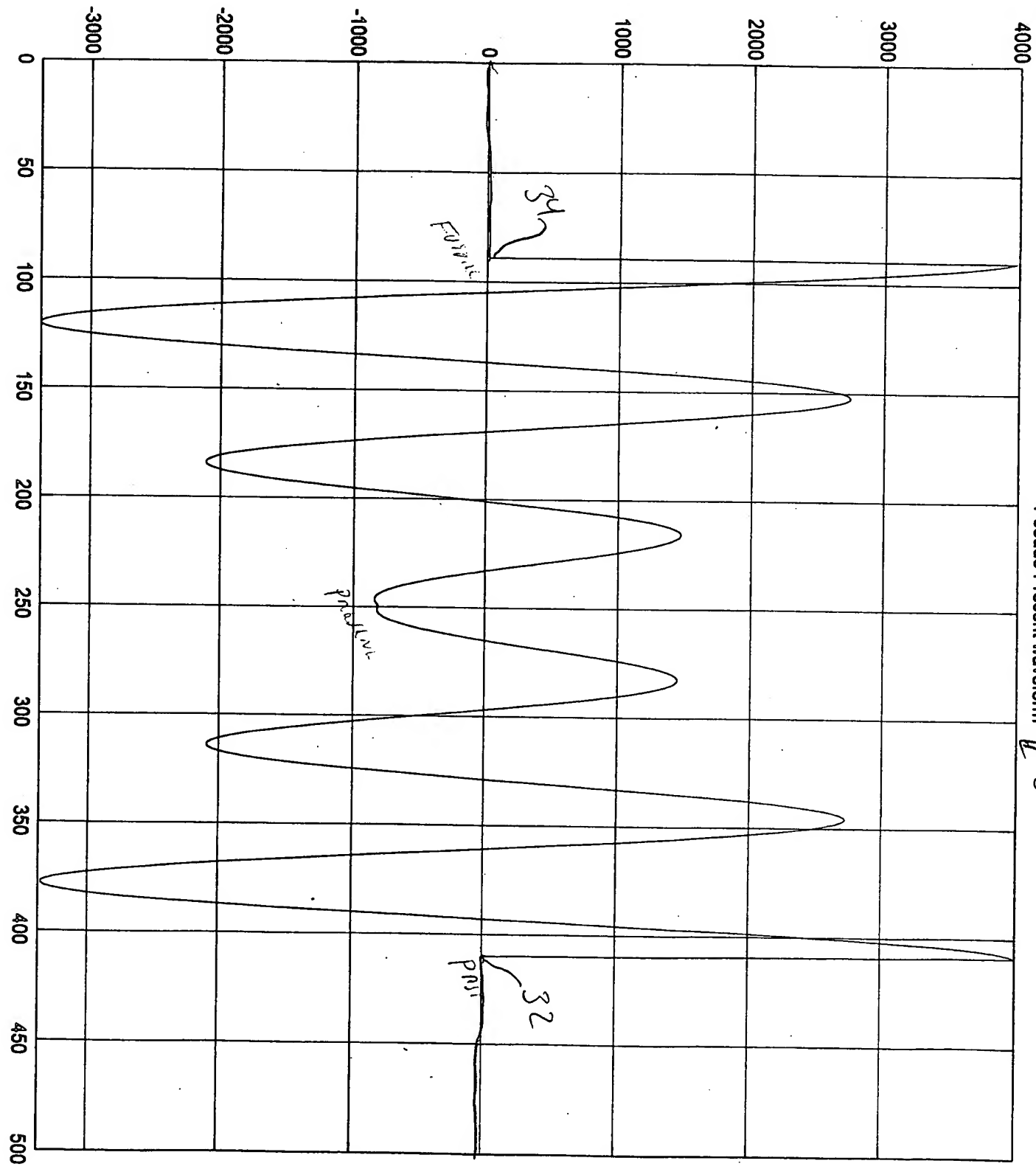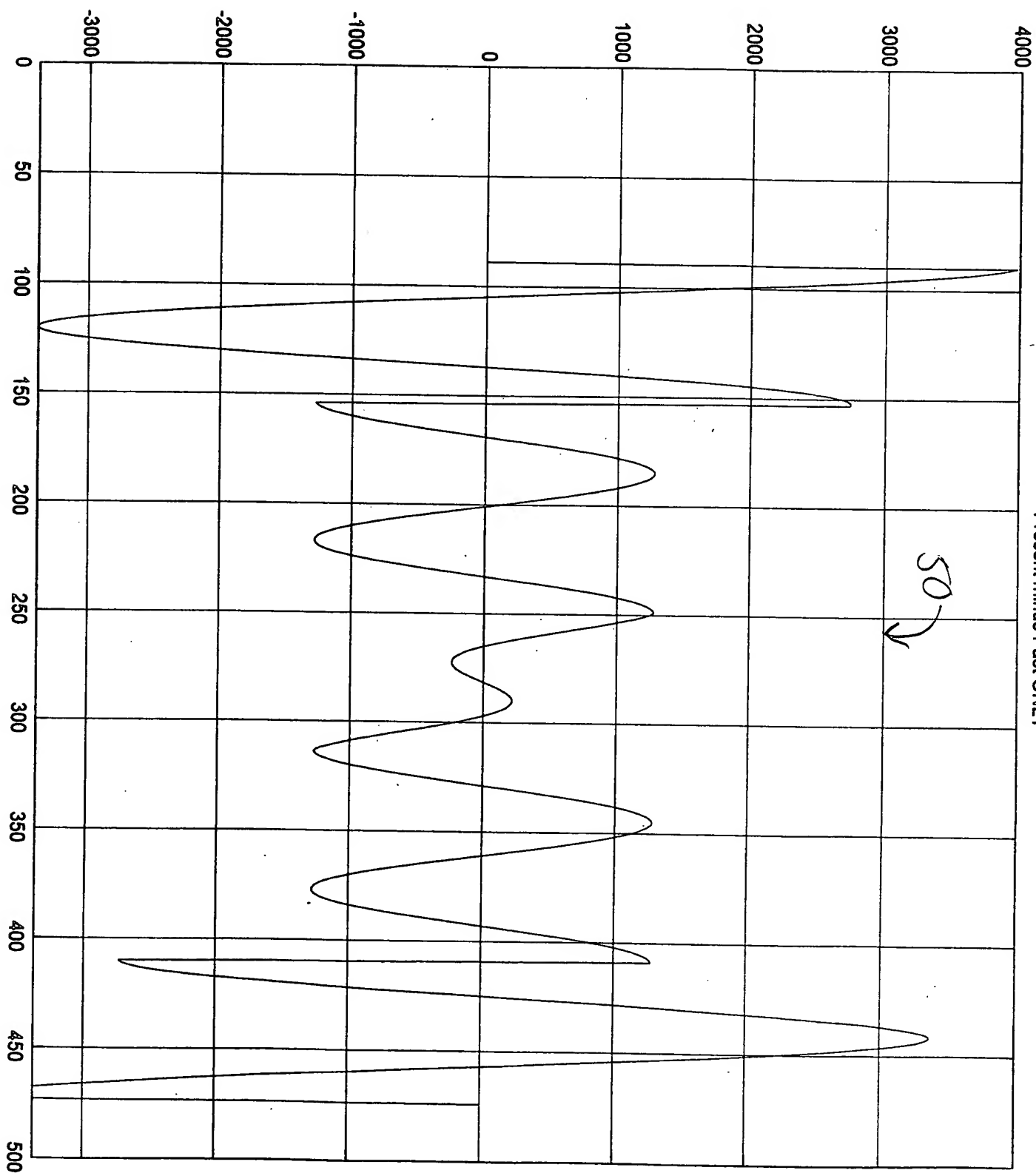
FIG. 7

Present minus Past ONLY

50

Output due to improvements through causal switching only
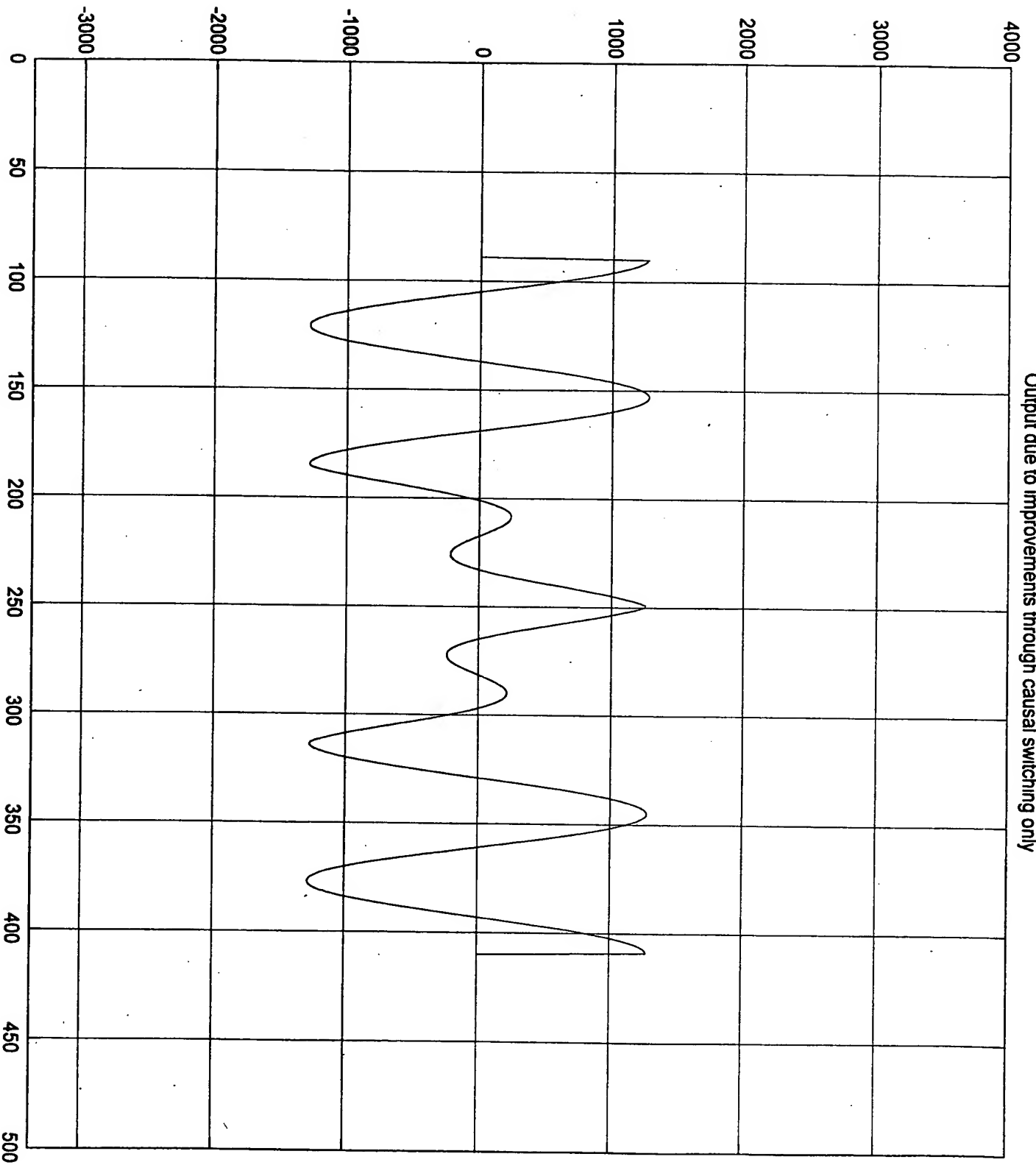

F1G. 8

FIG. 9

Points Processed = 73   PtCntSwitch = 17   CausalSwitchEnabled   PastPoint = 0   PresentPoint = 0   FuturePoint = 0
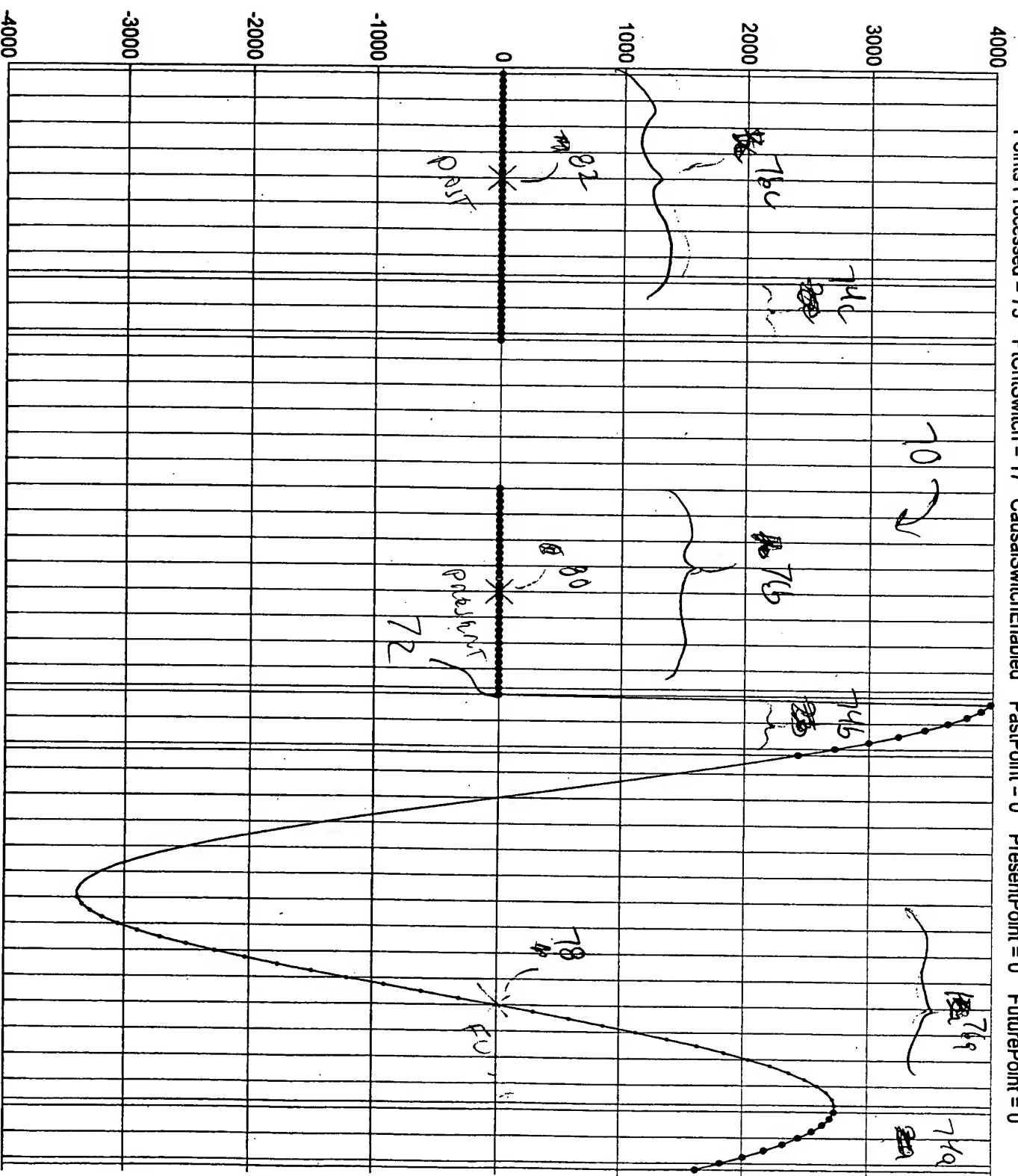
DPM adjusted data = 0   DPMFactor = 1   DPM Status = DPM Inhbt Low Amp   DPM Num = 0   DPM Den = 0

FIG. 10

Points Processed = 78   PtCntSwitch = 12   CausalSwitchLockedOut   PastPoint = 0   PresentPoint = 0   FuturePoint = 1395
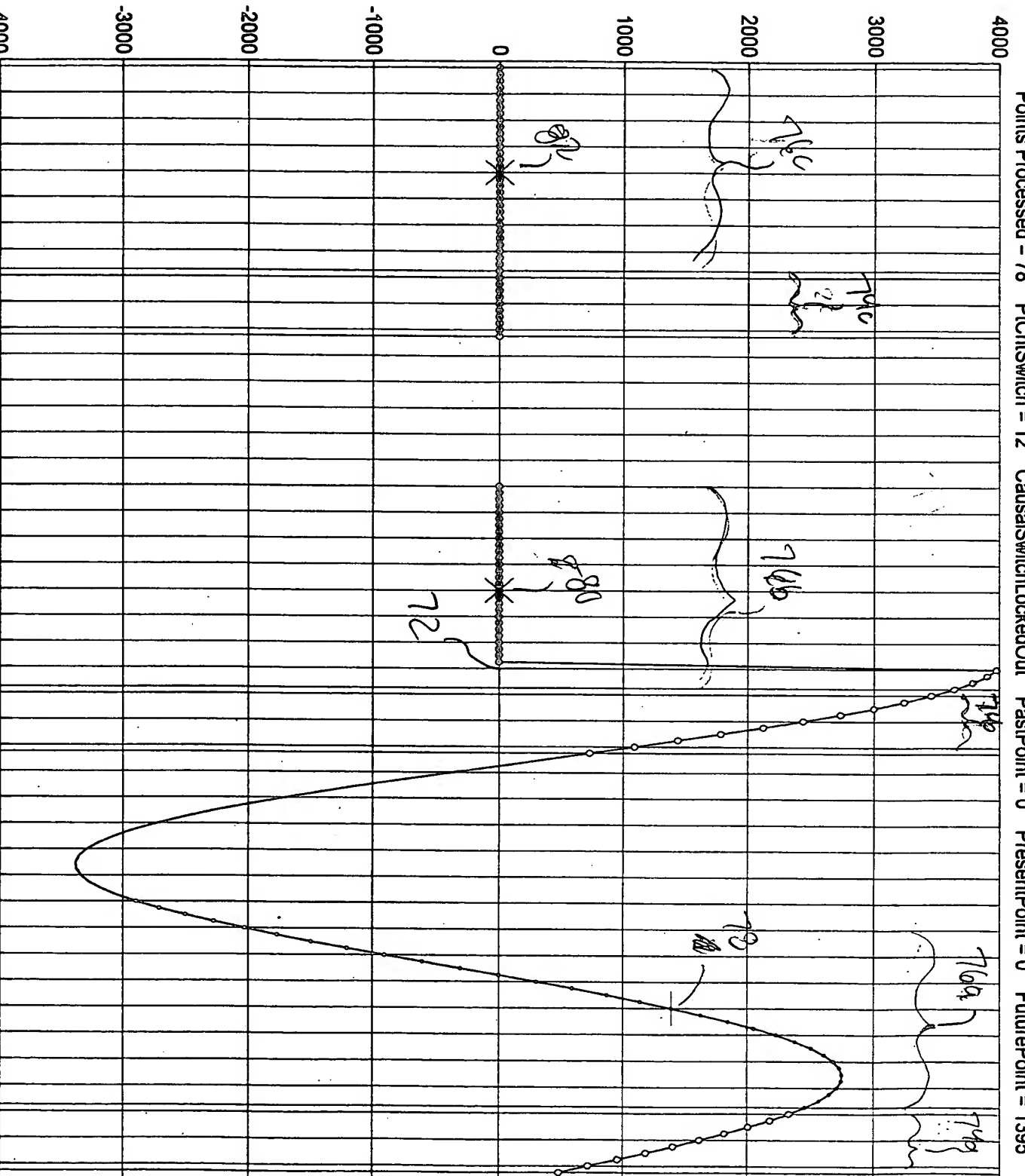
DPM adjusted data = 0   DPMFactor = 1   DPM Status = Num (Prsnt) frozen from c switch DPM Inhbt Low Amp   DPM Num = 0   DPM Den = 0

FIG. 11

Points Processed = 89   PtCntSwitch = 1   CausalSwitchLockedOut   PastPoint = 0   PresentPoint = 0   FuturePoint = 2740
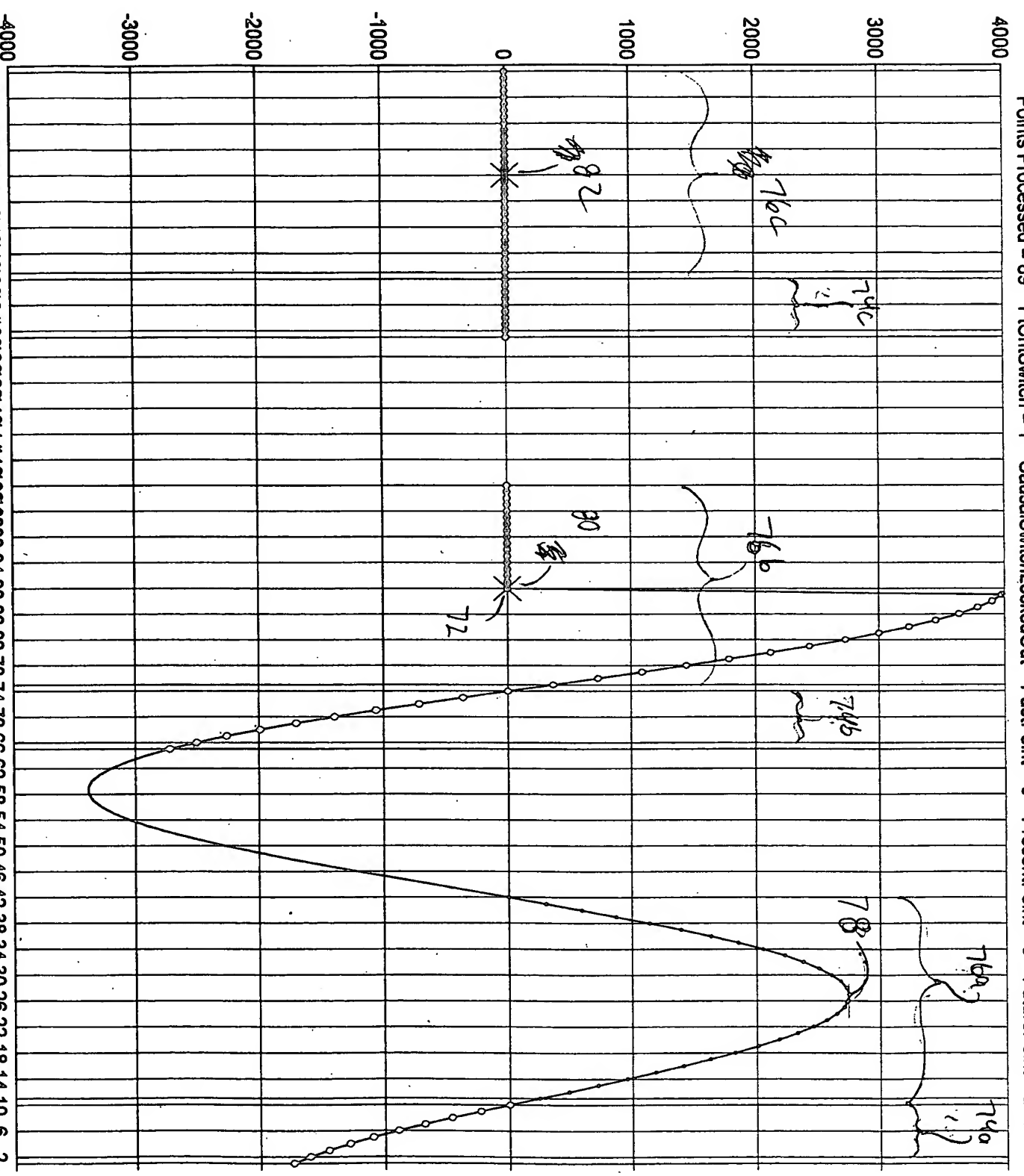
DPM adjusted data = 0   DPM Factor = 1   DPM Status = Num (Prsnt) frozen from c switch DPM Inhbt Low Amp   DPM Num = 0   DPM Den = 0

Points Processed = 90   PtCntSwitch = 0   CausalSwitchLockedOut   PastPoint = 0   PresentPoint = 3980   FuturePoint = 2706

70 →

FIG. 12

92

74e

74d

90

76b

74b

78

76a

74a

4000
3000
2000
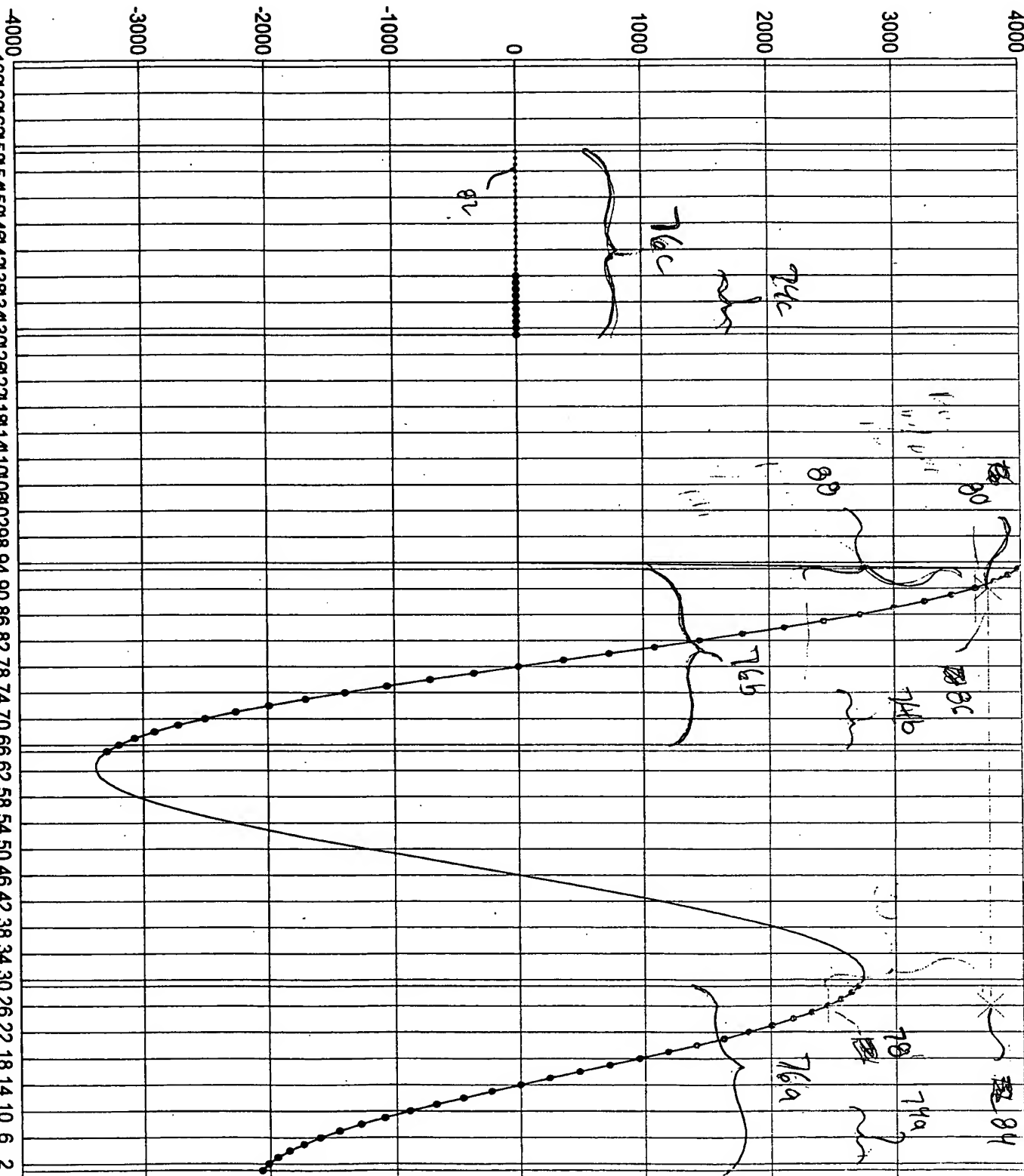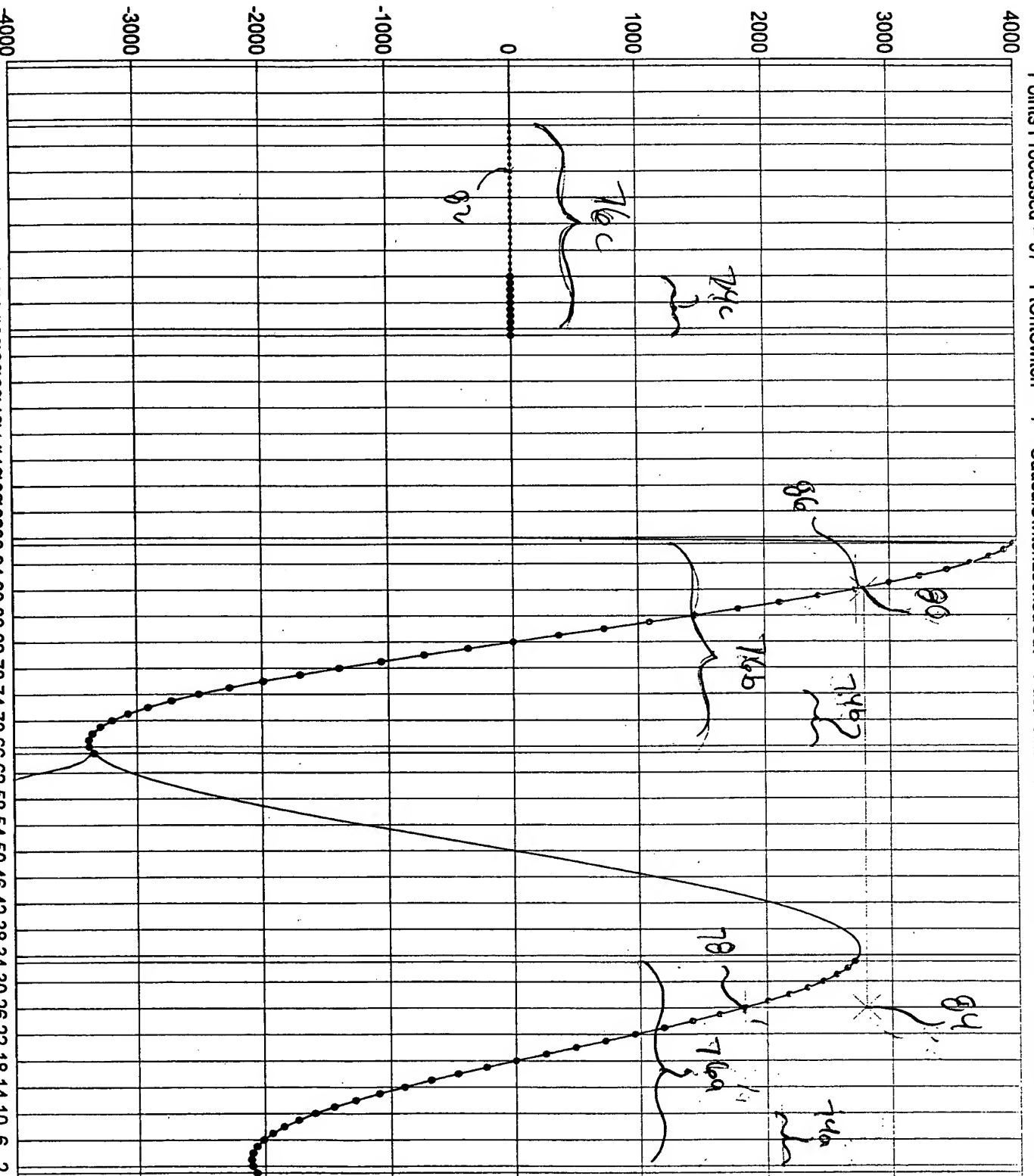1000
0
-1000
-2000
-3000
-4000

169 66 62 58 54 50 46 42 38 34 30 26 22 18 14 10 06 02 98 94 90 86 82 78 74 70 66 62 58 54 50 46 42 38 34 30 26 22 18 14 10 6 2

DPM adjusted data = 4089   DPMFactor = 1.5113   DPM Status = DPM span & center adjusting   DPM Num = 55309   DPM Den = 36598

FIG. 13

Points Processed = 93   PtCntSwitch = -3   CausalSwitchLockedOut   PastPoint = 0   PresentPoint = 3640   FuturePoint = 2457

DPM adjusted data = 3740   DPMFactor = 1.522   DPM Status = DPM span & center adjusting   DPM Num = 64865   DPM Den = 42618

FIG. 14

Points Processed = 106   PtCntSwitch = 17   CausalSwitchEnabled   PastPoint = 0   PresentPoint = -360   FuturePoint = -235
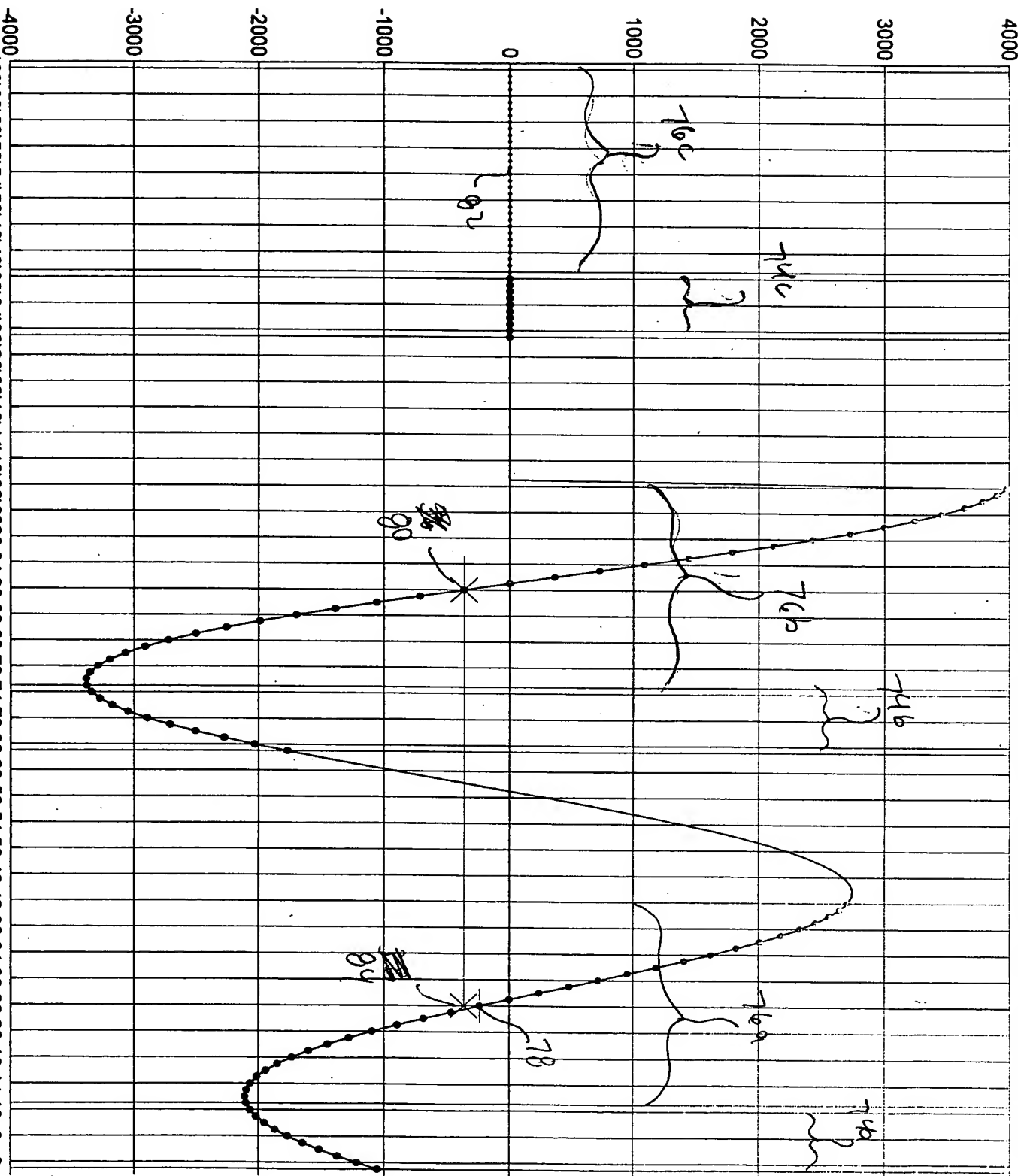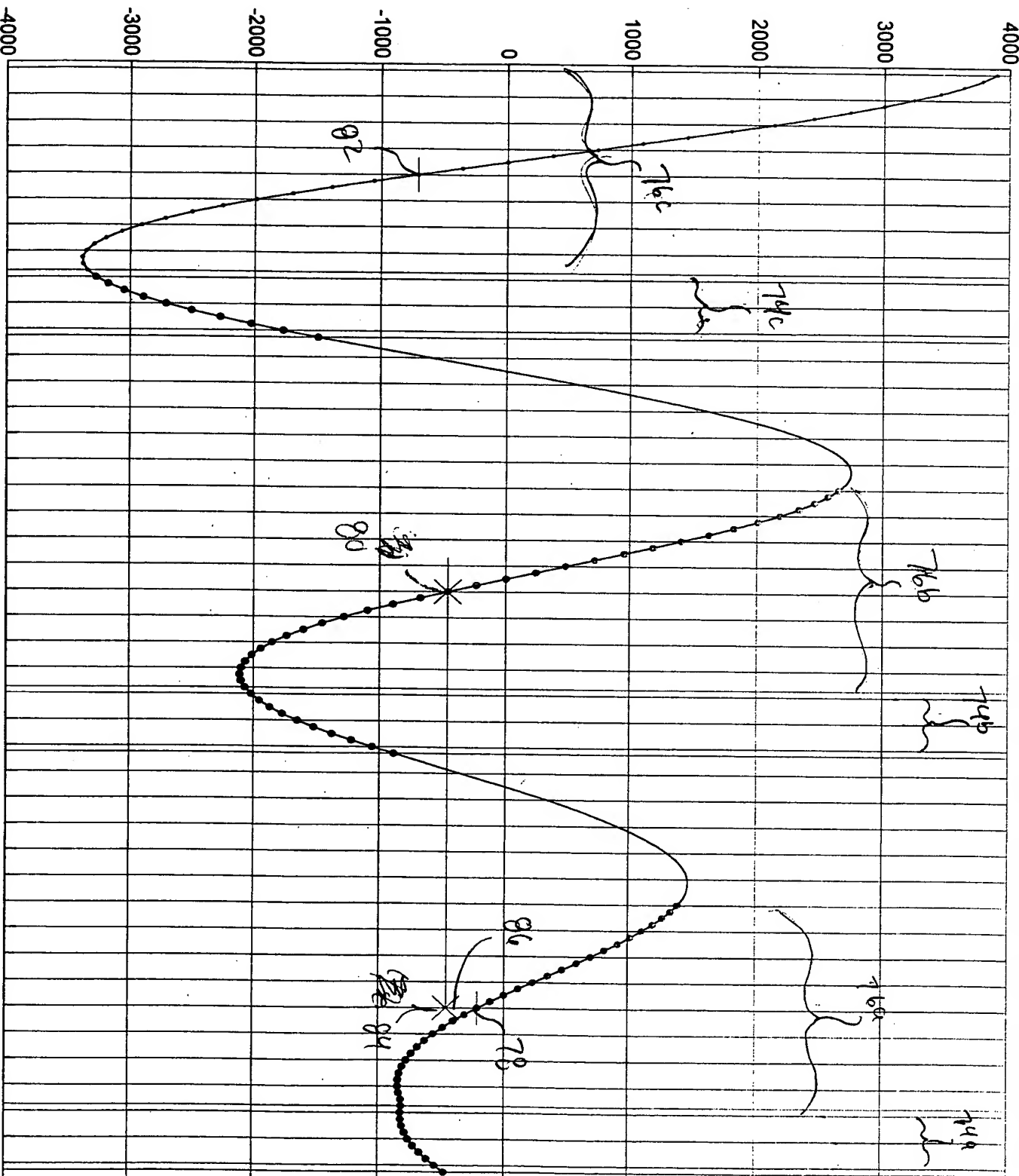
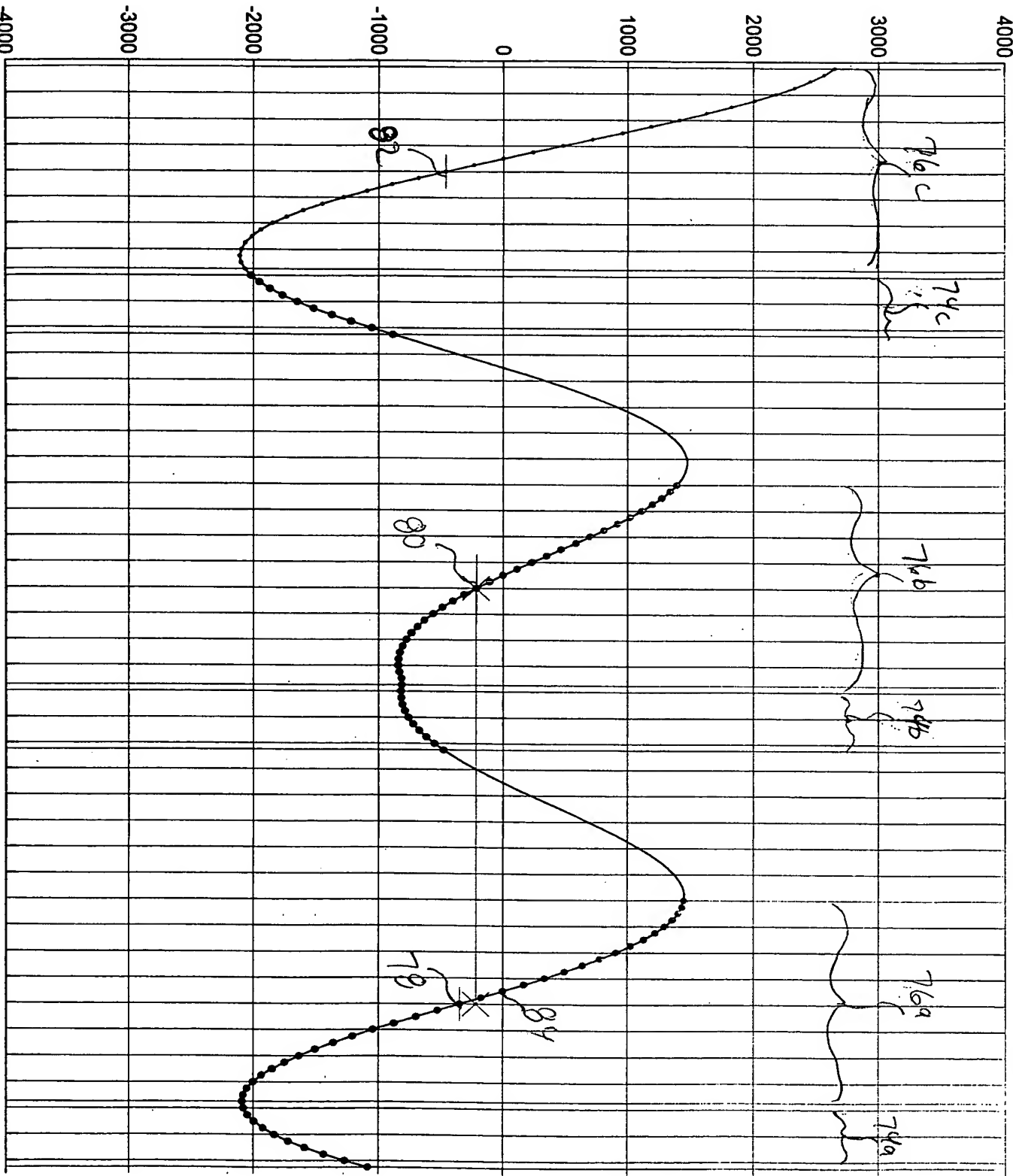DPM adjusted data = -361   DPMFactor = 1.5326   DPM Status = Normal   DPM Num = 74982   DPM Den = 48925

FIG. 15

FIG. 16

70

Points Processed = 171   PtCntSwitch = 17   CausalSwitchEnabled   PastPoint = -714   PresentPoint = -464   FuturePoint = -214

DPM adjusted data = -465   DPMFactor = 2.1699   DPM Status = Normal   DPM Num = 48288   DPM Den = 22254

FIG. 17

Points Processed = 235   PtCntSwitch = 15   CausalSwitchLockedOut   PastPoint = -464   PresentPoint = -214   FuturePoint = -351

DPM adjusted data = -217   DPMFactor = 0.61591   DPM Status = Den (Future) frozen from c switch   DPM Num = 22254   DPM Den = 36132

FIG. 18

Points Processed = 249   PtCntSwitch = 1   CausalSwitchLockedOut   PastPoint = -2100   PresentPoint = -820   FuturePoint = -2080
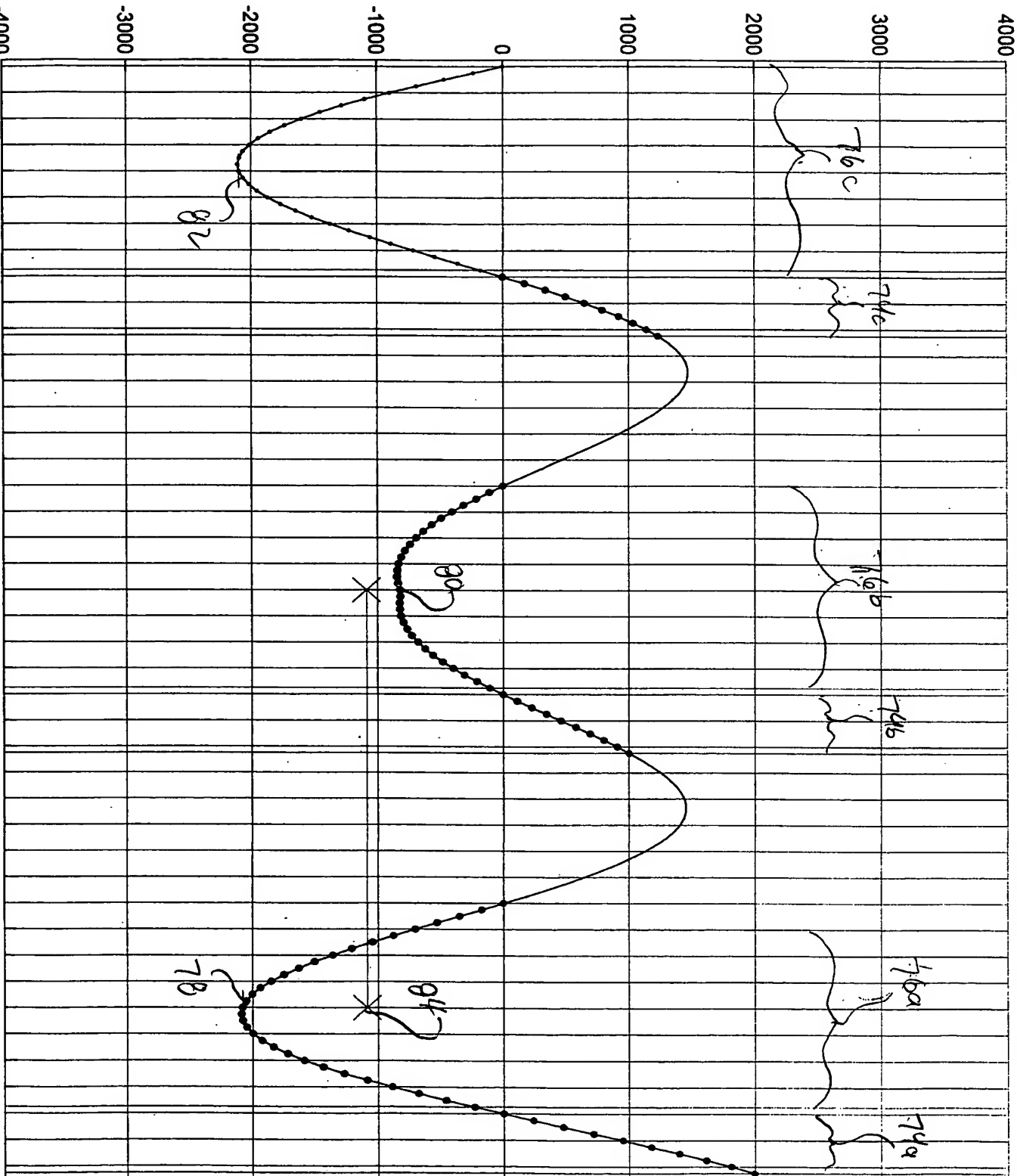
DPM adjusted data = -1085   DPMFactor = 0.52142   DPM Status = Den (Future) frozen from c switch   DPM Num = 18840   DPM Den = 36132
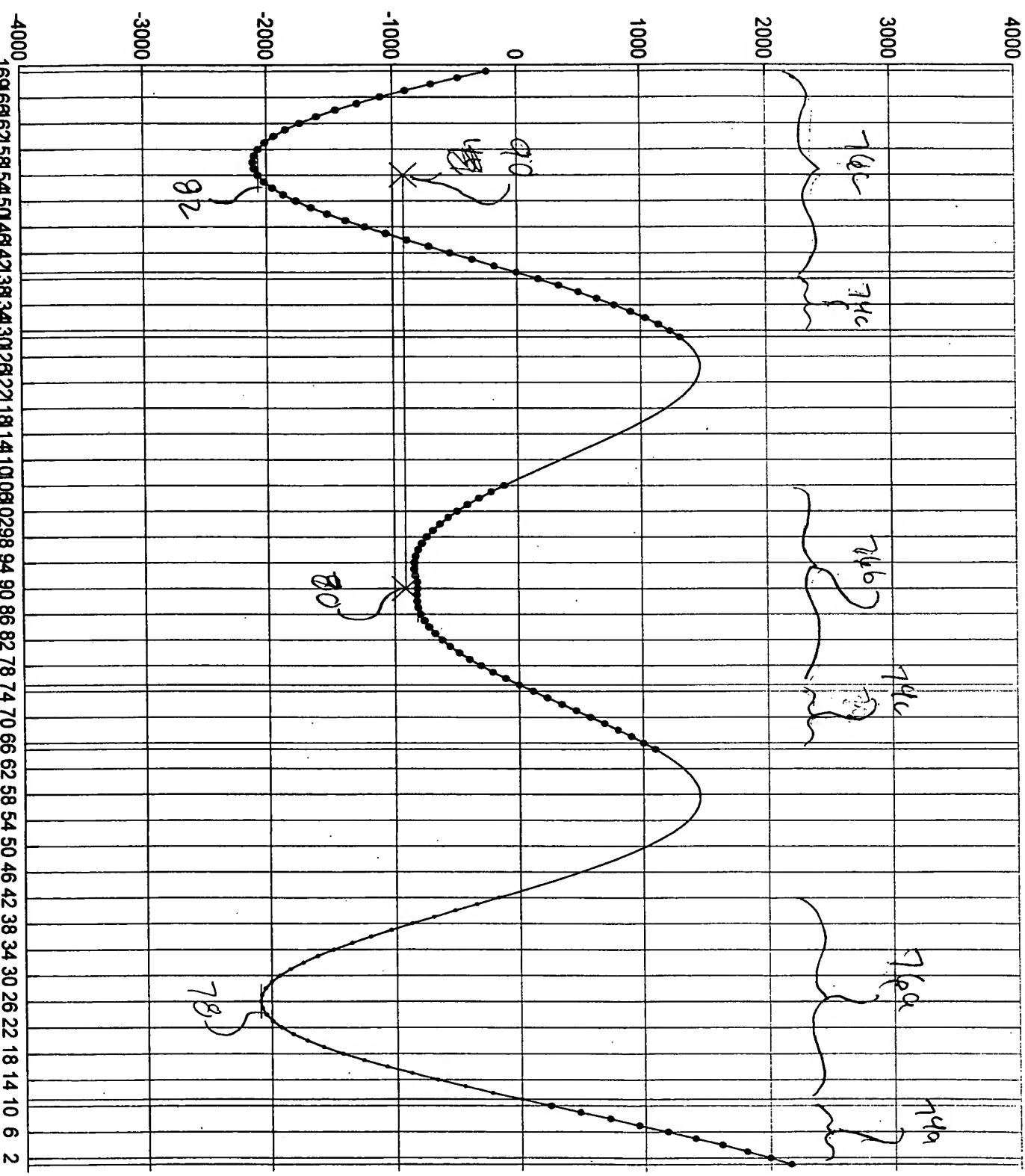
FIG. 19

Points Processed = 250   PtCntSwitch = 0   CausalSwitchLockedOut   PastPoint = -2069   PresentPoint = -816   FuturePoint = -2089

DPM adjusted data = -913   DPMFactor = 0.44088   DPM Status = Normal   DPM Num = 18840   DPM Den = 42733

FIG. 20

70 →

Points Processed = 266   PtCntSwitch = 17   CausalSwitchEnabled   PastPoint = 172   PresentPoint = 111   FuturePoint = 237

DPM adjusted data = 111   DPMFactor = 0.64352   DPM Status = Normal   DPM Num = 23101   DPM Den = 35898
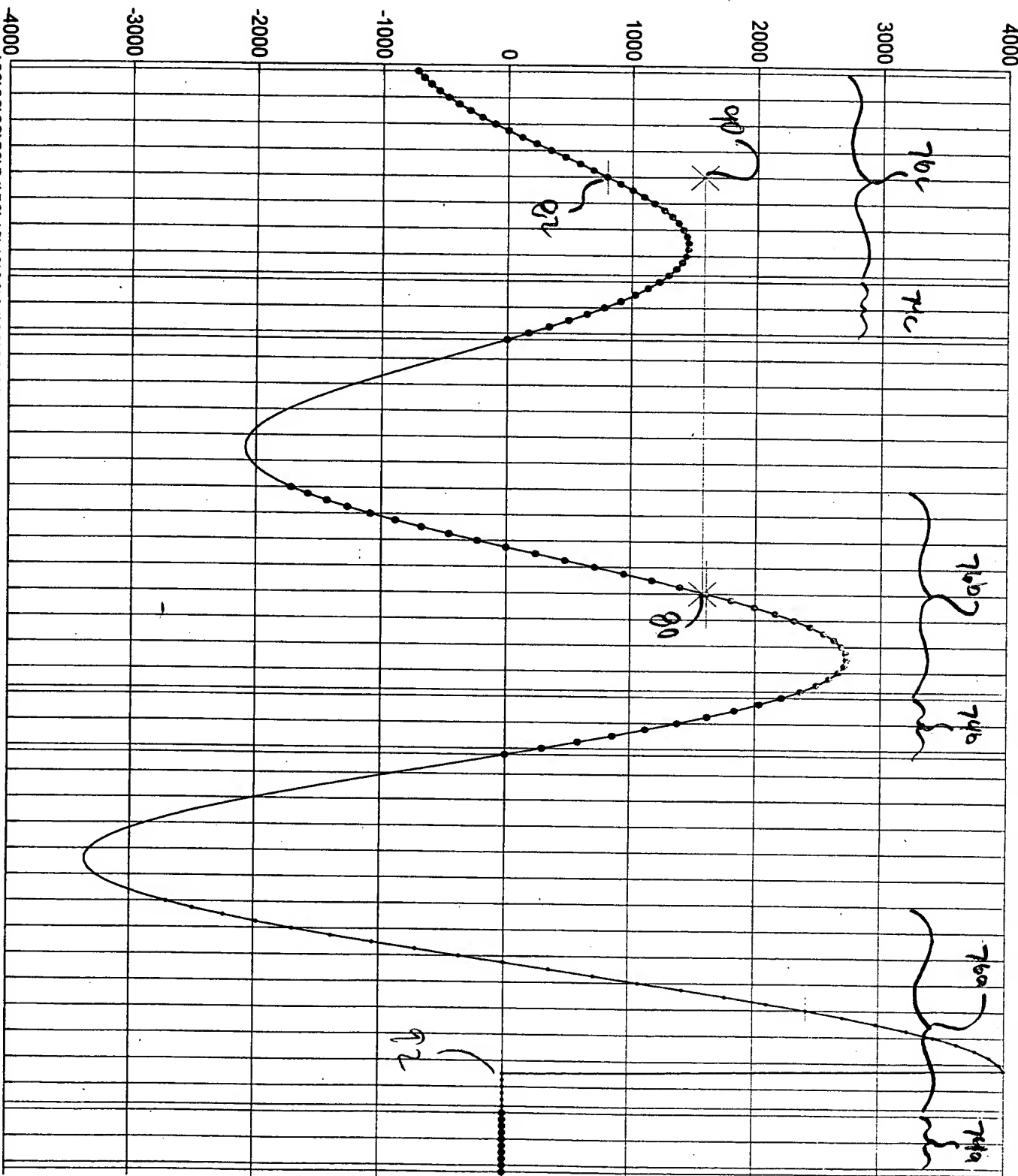
FIG. 21

FIG. 22

Points Processed = 336   PtCntSwitch = 17   CausalSwitchEnabled   PastPoint = 799   PresentPoint = 1611   FuturePoint = 2423

DPM adjusted data = 1580   DPMFactor = 1.9972   DPM Status = Normal   DPM Num = 52725   DPM Den = 26667

70 →

Points Processed = 394   PtCntSwitch = 16   CausalSwitchLockedOut   PastPoint = 237   PresentPoint = 362   FuturePoint = 0
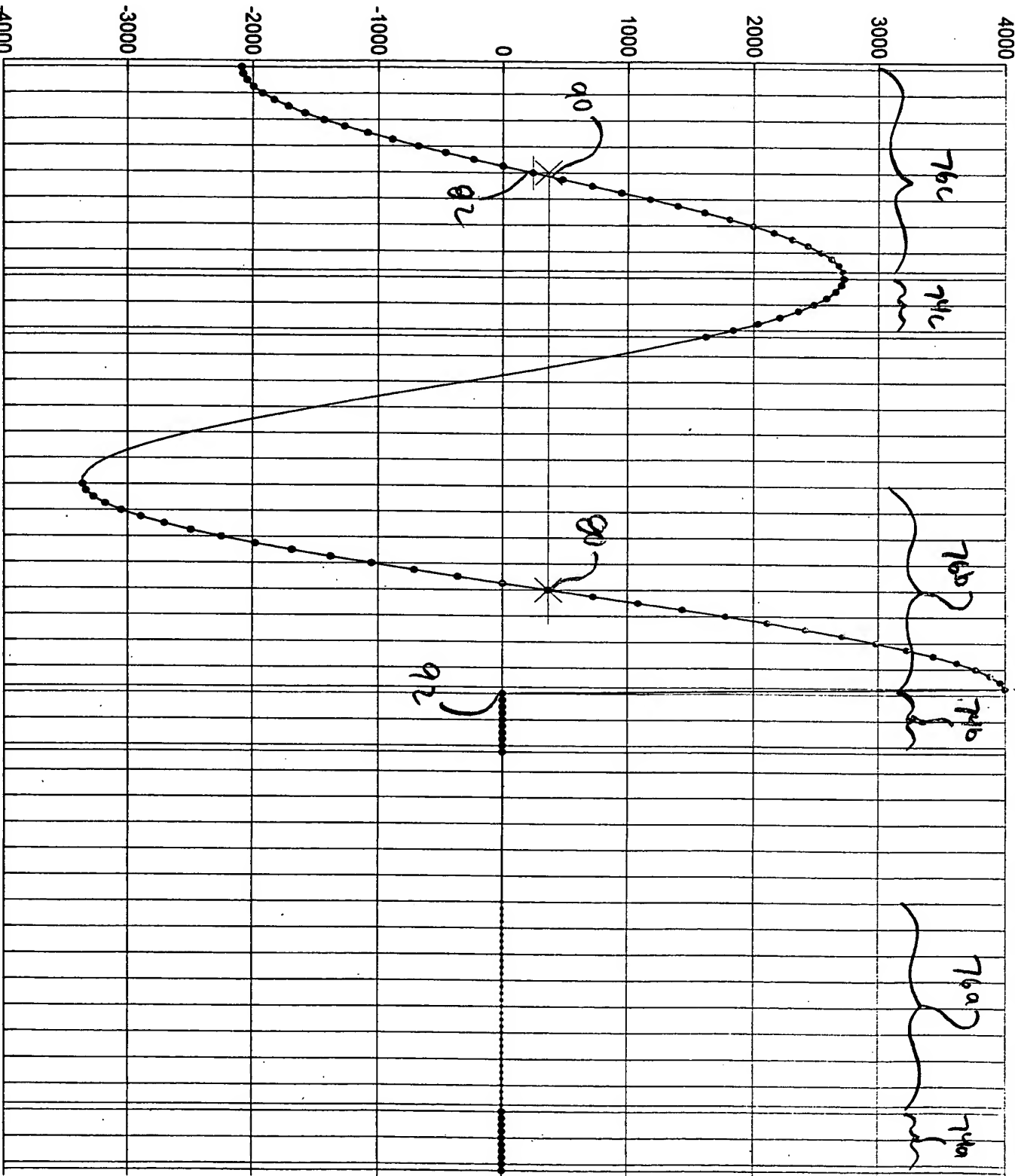
DPM adjusted data = 363   DPMFactor = 1.5299   DPM Status = Normal   DPM Num = 75211   DPM Den = 49160

FIG. 23

FIG. 24

Points Processed = 408   PtCntSwitch = 2   CausalSwitchLockedOut   PastPoint = 2686   PresentPoint = 3960   FuturePoint = 0
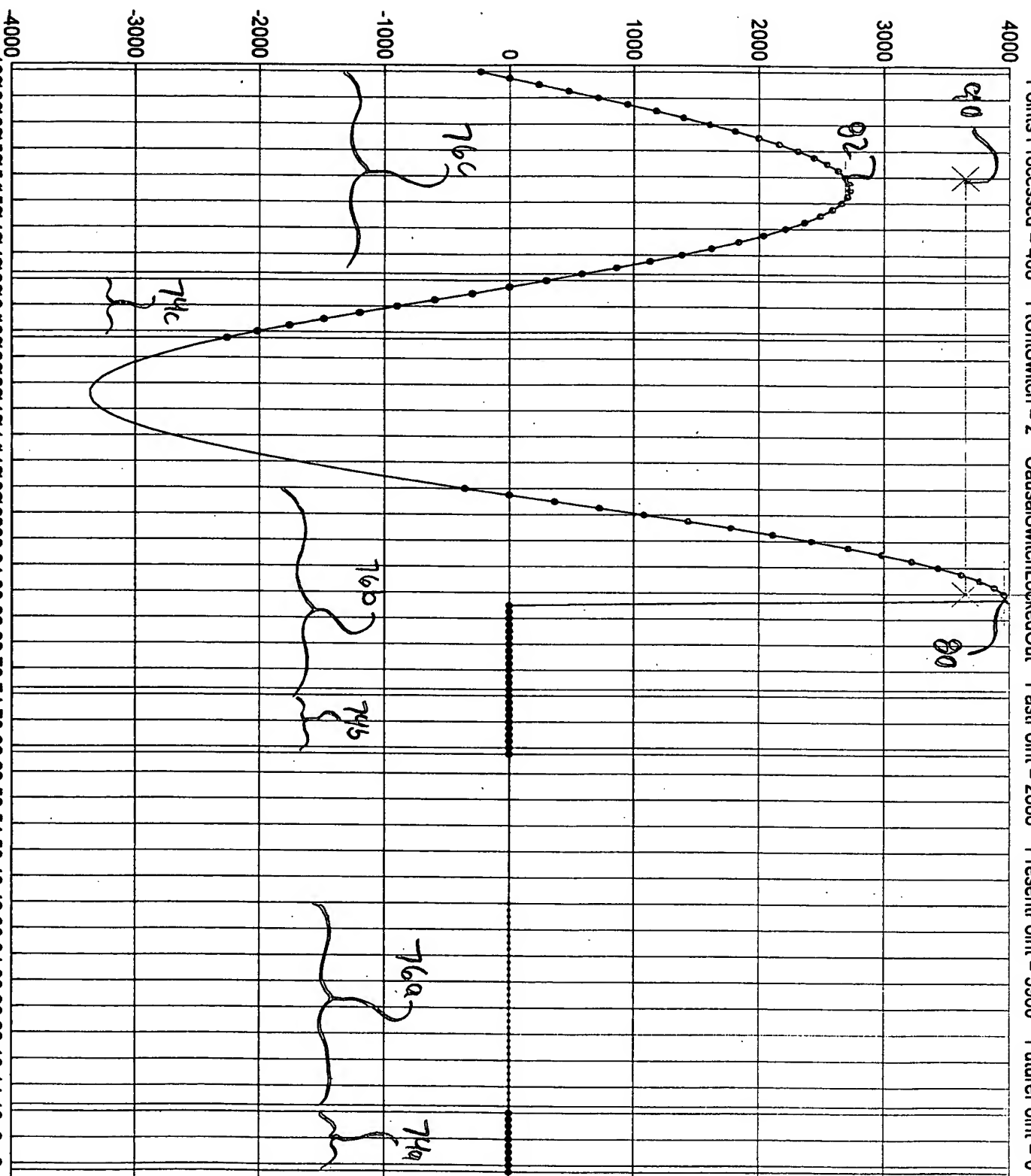
DPM adjusted data = 3654   DPMFactor = 1.3603   DPM Status = Num (Prsnt) frozen from c switch   DPM Num = 75211   DPM Den = 55291

FIG. 25

Points Processed = 410   PtCntSwitch = 0   CausalSwitchLockedOut   PastPoint = 2726   PresentPoint = 0   FuturePoint = 0
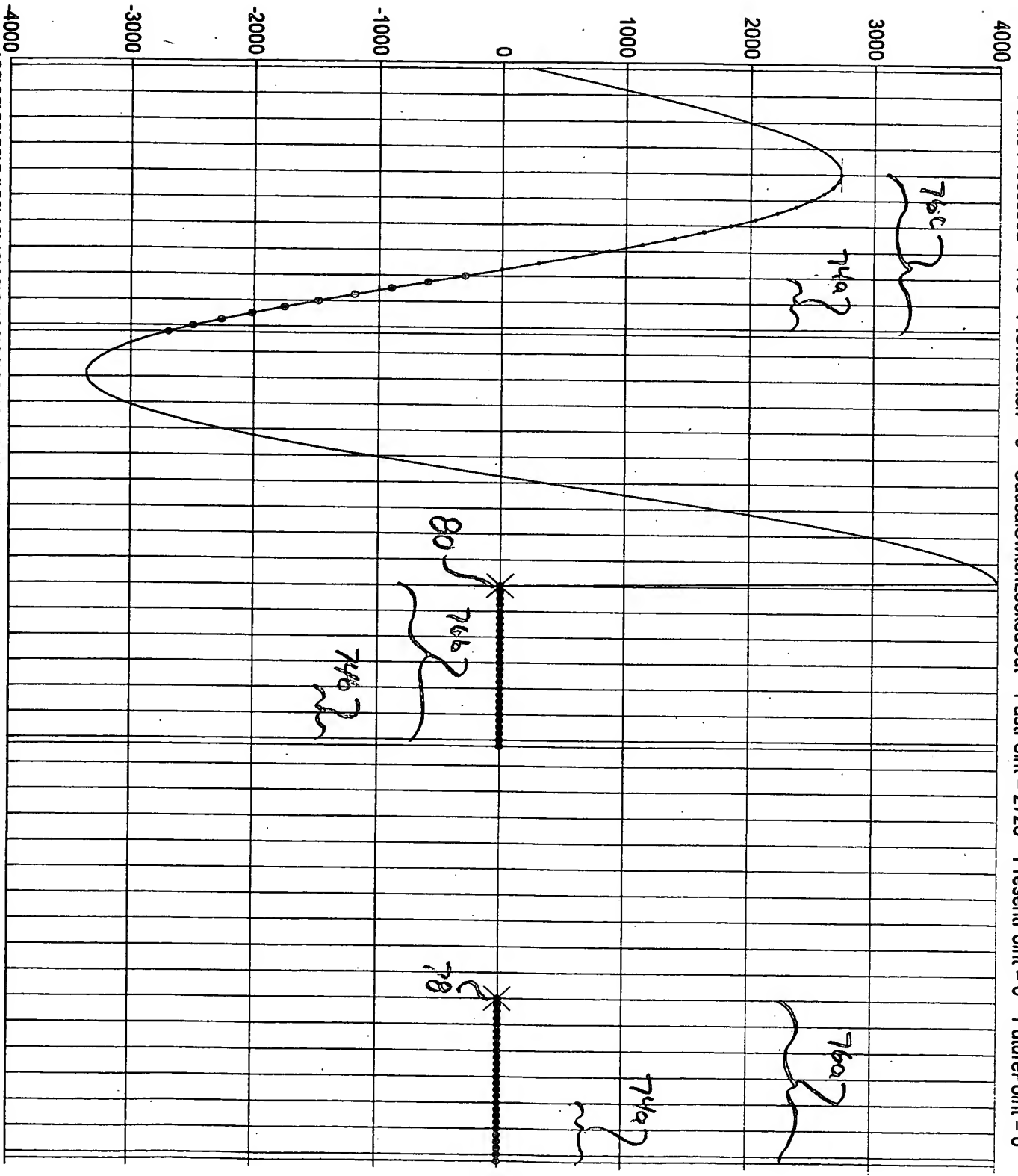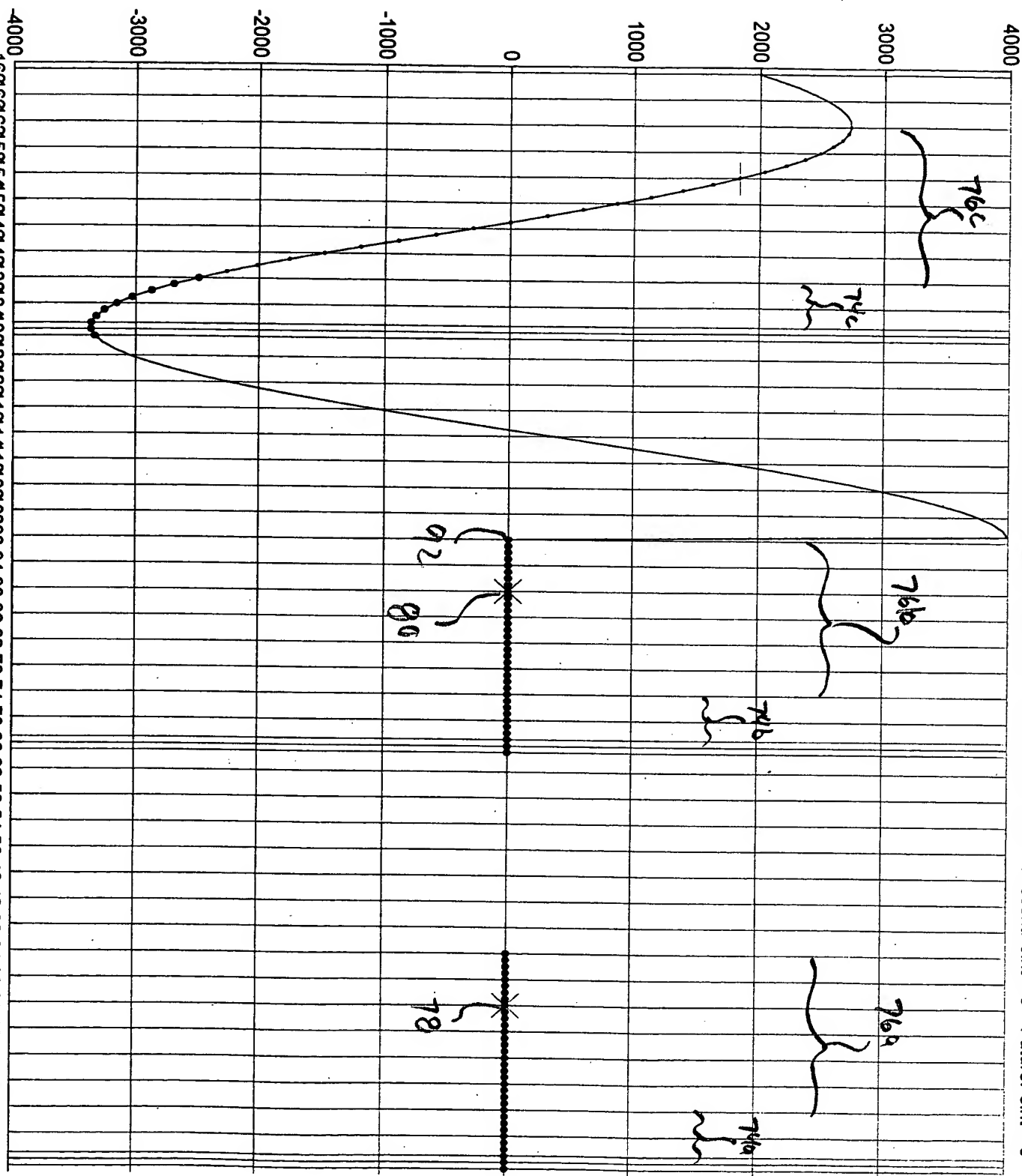
169 68 66 62 58 54 54 50 48 42 38 34 34 30 28 22 18 14 10 108 02 98 94 90 86 82 78 74 70 66 62 58 54 50 46 42 38 34 30 26 22 18 14 10 6 2

DPM adjusted data = 0   DPMFactor = 1   DPM Status = DPM span & center adjustingDPM Inhbt Low Amp   DPM Num = 0   DPM Den = 0

FIG. 26

Points Processed = 418   PtCntSwitch = -8   CausalSwitchLockedOut   PastPoint = 1839   PresentPoint = 0   FuturePoint = 0

DPM adjusted data = 0   DPMFactor = 1   DPM Status = DPM span & center adjusting DPM Inhbt Low Amp   DPM Num = 0   DPM Den = 0

FIG. 27

Points Processed = 438   PtCntSwitch = 17   CausalSwitchEnabled   PastPoint = -3157   PresentPoint = 0   FuturePoint = 0

DPM adjusted data = 0   DPMFactor = 1   DPM Status = DPM Inhbt Low Amp   DPM Num = 0   DPM Den = 0
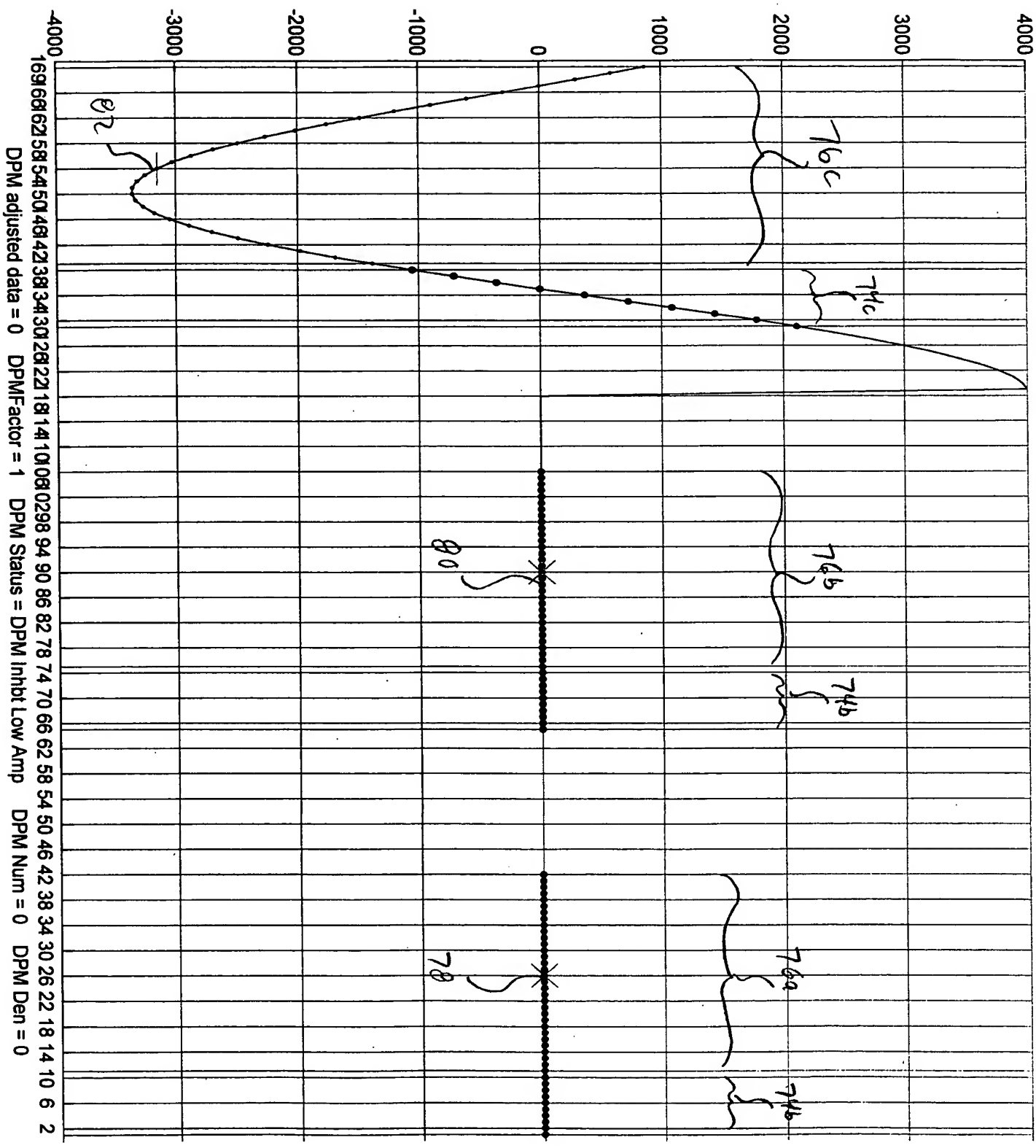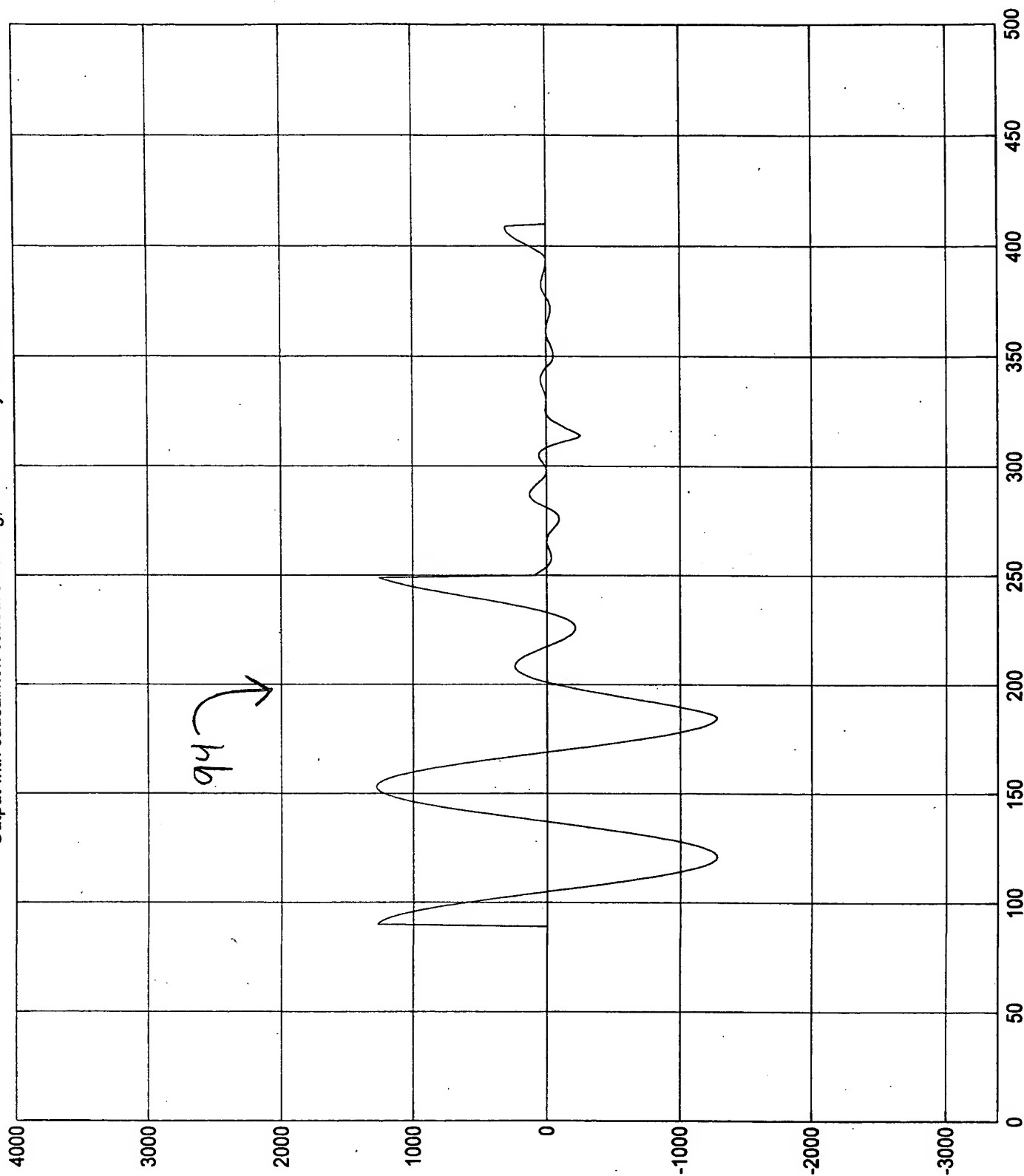
Output with causal/non-causal switching, but DPM only in the Past

FIG. 28

Output from full NC Switching and DPM

FIG. 29
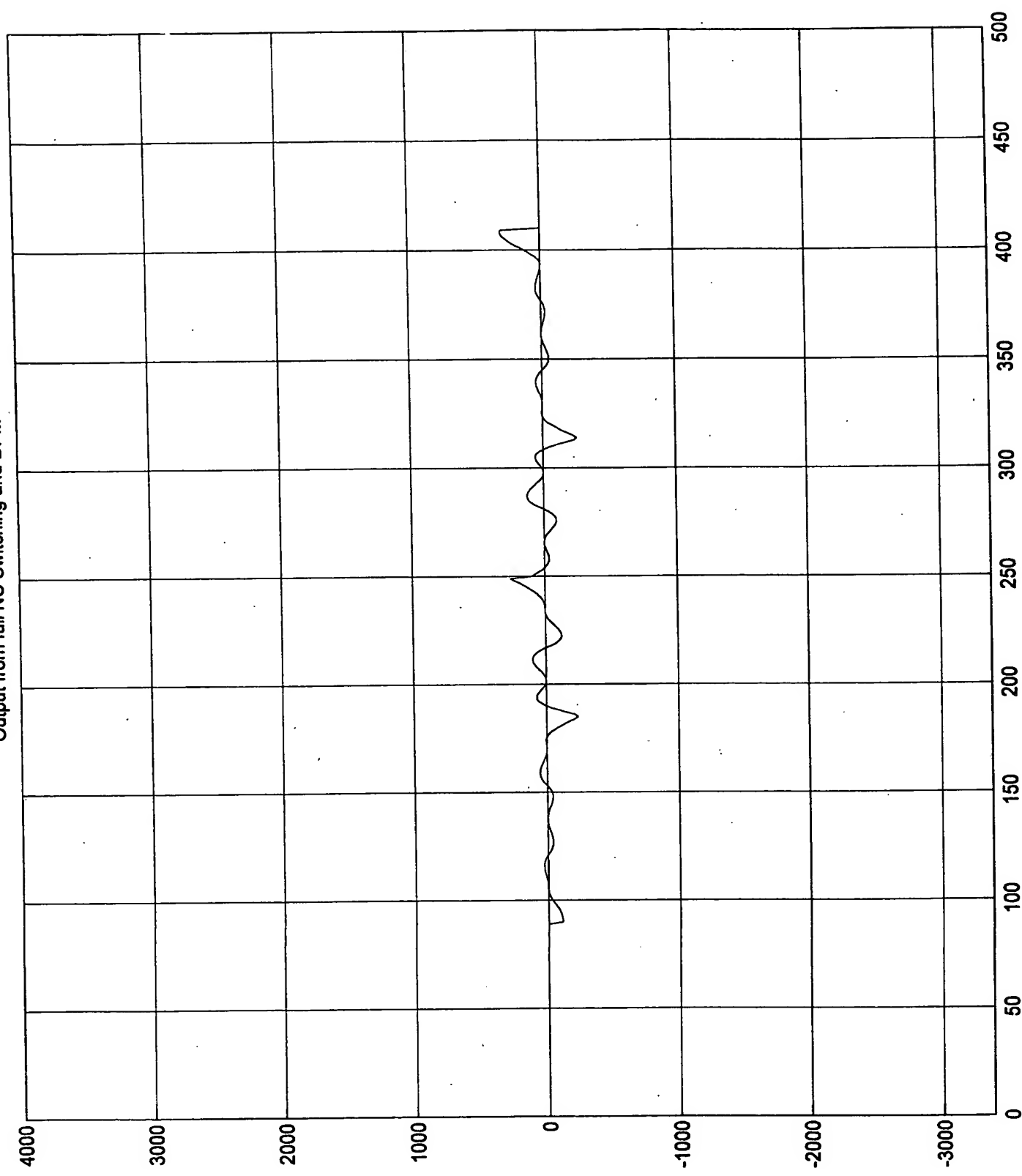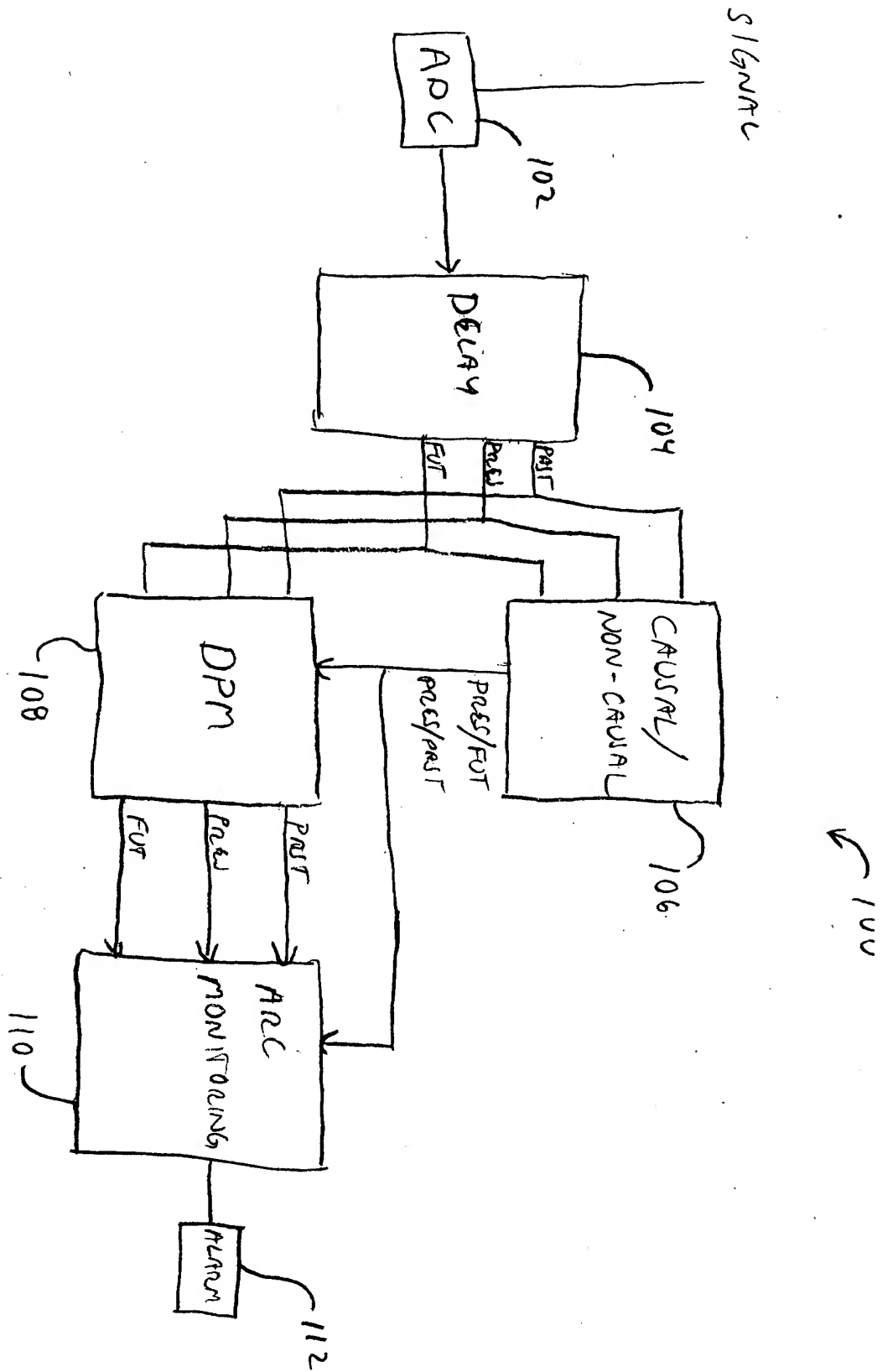
SIGNAL

APC
102

DELAY
104

FUT PRES PAST

CAUSAL/
NON-CAUSAL
106

PRES/FUT
PRES/PAST

DPM
108

FUT PRES PAST

ARC
MONITORING
110

FUT PRES PAST

ALARM
112

FIG 30